

AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

1. (Currently Amended) A multi-domain liquid crystal display device comprising:
 - first and second substrates facing each other;
 - a liquid crystal layer between said first and second substrates;
 - a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;
 - an L-shaped thin film transistor at an intersection of one of said gate and data bus lines;
 - an underlying layer directly beneath said plurality of data bus lines and in said pixel region;
 - a passivation layer directly on said plurality of data bus lines and directly on portions of said underlying layer in said pixel region;
 - a pixel electrode on said passivation layer;
 - a storage electrode connected to said pixel electrode via a contact hole and overlapped with said gate line so as to form a storage capacitor;
 - an electric field inducing window in said pixel region; and
 - a photo-alignment layer having a pre-tilt angle in a range of about 1°~ about 5° on at least one of the first and second substrates,
 - wherein the electric field inducing window divides the pixel region into a first region and a second region, and
 - wherein said electric field inducing window is aligned with a portion of said passivation layer that is directly on said underlying layer, and
 - wherein the alignment direction of the liquid crystal layer in the first region is aligned differently from the alignment direction of the liquid crystal layer in the second region, and
 - wherein at least one of the alignment directions as well as the pre-tilt angle are determined at the same time by the irradiation of the photo-alignment layer by a light, and
 - wherein the photo-alignment layer includes a material selected from the group consisting of PSCN (polysiloxane-cinnamate) and CelCN (cellulosecinnamate) based compounds.

2. (Cancelled).
3. (Original) The device according to claim 1, wherein the photo-alignment layer has an alignment direction.
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Previously Presented) The device according to claim 1, wherein at least a portion of the underlying layer is exposed within the electric field inducing window.
9. (Previously Presented) The device according to claim 1, wherein at least a portion of the passivation layer is exposed within the electric field inducing window.
10. (Previously Presented) The device according to claim 7, wherein the electric field inducing window is formed within the pixel electrode.
11. (Previously Presented) The device according to claim 58, wherein the gate insulator includes a material selected from the group consisting of SiNx, SiOx, BCB, acrylic resin and polyimide based compounds.
12. (Previously Presented) The device according to claim 1, wherein the passivation layer includes a material selected from the group consisting of SiNx, SiOx, BCB, acrylic resin and polyimide based compound.
13. (Original) The device according to claim 7, wherein the pixel electrode includes ITO (indium tin oxide).

14. (Original) The device according to claim 1, wherein the pixel region is divided into at least two regions such that liquid crystal molecules of the liquid crystal layer have mutually different driving-properties in each region.

15. (Original) The device according to claim 1, wherein the photo-alignment layer is divided into at least two regions so that liquid crystal molecules of the liquid crystal layer have mutually different alignment directions in each region.

16. (Original) The device according to claim 15, wherein at least one region of the photo-alignment layer includes an alignment treatment.

17. (Original) The device according to claim 15, wherein all regions of the photo-alignment layer include a non-alignment treatment.

18. (Original) The device according to claim 15, wherein at least one region of the photo-alignment layer includes a photo-alignment treatment.

19. (Cancelled)

20. (Original) The device according to claim 18, wherein the photo-alignment treatment includes ultraviolet rays.

21. (Original) The device according to claim 18, wherein the photo -alignment treatment includes at least once irradiation.

22. (Original) The device according to claim 18, wherein the photo-alignment layer includes the pre-tilt and an alignment direction by the photo-alignment direction.

23. (Original) The device according to claim 1, wherein the liquid crystal layer has a positive dielectric anisotropy.

24. (Original) The device according to claim 1, wherein the liquid crystal layer has a negative dielectric anisotropy.
25. (Original) The device according to claim 1, wherein the liquid crystal layer includes chiral dopants.
26. (Original) The device according to claim 1, wherein the liquid crystal layer is aligned vertically with respect to top surfaces of the first and second substrates.
27. (Original) The device according to claim 1, further comprising a negative uniaxial film on at least one substrate.
28. (Previously Presented) The device according to claim 1, further comprising a negative biaxial film on at least one substrate.
29. (Currently Amended) A multi-domain liquid crystal display device, comprising:
first and second substrates facing each other;
a liquid crystal layer between said first and second substrates;
a plurality of gate bus lines arranged in a first direction on said first substrate and a plurality of data bus lines arranged in a second direction on said first substrate to define a pixel region;
an L-shaped thin film transistor at an intersection of one of said gate and data bus lines;
an underlying layer directly beneath said plurality of data bus lines and in said pixel region;
a passivation layer directly on said plurality of data bus lines and directly on portions of said underlying layer in said pixel region;
a pixel electrode on said first substrate;
a storage electrode connected to said pixel electrode via a contact hole and overlapped with said gate line so as to form a storage capacitor;
an electric field inducing window in said pixel electrode; and
a photo-alignment layer having a pretilt angle in a range of about 1°~ about 5° on at least one of the first and second substrates,

wherein the electric field inducing window divides the pixel region into a first region and a second region, and

wherein said electric field inducing window is aligned with a portion of said passivation layer that is directly on said underlying layer, and

wherein the alignment direction of the liquid crystal layer in the first region is aligned differently from the alignment direction of the liquid crystal layer in the second region, ~~and~~

wherein at least one of the alignment directions as well as the pre-tilt angle are determined at the same time by the irradiation of the photo-alignment layer by a light, and

wherein the photo-alignment layer includes a material selected from the group consisting of PSCN (polysiloxane-cinnamate) and CelCN (cellulosecinnamate) based compounds.

30. (Cancelled)

31. (Previously Presented) The device according to claim 29, wherein the photo-alignment layer includes an alignment direction.

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Previously Presented) The device according to claim 29, wherein the underlying layer comprises a gate insulator.

36. (Previously Presented) The device according to claim 29, wherein at least a portion of the underlying layer is exposed within the electric field inducing window.

37. (Previously Presented) The device according to claim 29, wherein at least a portion of the passivation layer is exposed within the electric field inducing window.

38. (Previously Presented) The device according to claim 29, wherein the electric field inducing window is formed within the pixel electrode.
39. (Previously Presented) The device according to claim 35, wherein the gate insulator includes a material selected from the group consisting of SiNx, SiOx, BCB, acrylic resin and polyimide based compounds.
40. (Previously Presented) The device according to claim 29, wherein the passivation layer includes a material selected from the group consisting of SiNx, SiOx, BCB, acrylic resin and polyimide based compounds.
41. (Previously Presented) The device according to claim 29, wherein the pixel electrode includes ITO (indium tin oxide).
42. (Previously Presented) The device according to claim 29, wherein the pixel region is divided into at least two regions such that liquid crystal molecules of the liquid crystal layer have mutually different driving-properties in each region.
43. (Previously Presented) The device according to claim 29, wherein the photo-alignment layer is divided into at least two regions so that liquid crystal molecules of the liquid crystal layer have mutually different alignment direction in each region.
44. (Previously Presented) The device according to claim 43, wherein at least one region of the photo-alignment layer includes an alignment treatment.
45. (Previously Presented) The device according to claim 43, wherein the all regions of the photo-alignment layer include a non-alignment treatment.
46. (Previously Presented) The device according to claim 43, wherein at least one region of the photo-alignment layer includes a photo-alignment treatment.
47. (Cancelled)

48. (Previously Presented) The device according to claim 46, wherein the photo-alignment treatment includes ultraviolet rays.

49. (Previously Presented) The device according to claim 46, wherein the photo-alignment treatment includes at least once irradiation.

50. (Previously Presented) The device according to claim 46, wherein the photo-alignment layer includes the pretilt angle and an alignment direction by the photo-alignment direction.

51. (Previously Presented) The device according to claim 29, wherein the liquid crystal layer has a positive dielectric anisotropy.

52. (Previously Presented) The device according to claim 29, wherein the liquid crystal layer has a negative dielectric anisotropy.

53. (Previously Presented) The device according to claim 29, wherein the liquid crystal layer includes chiral dopants.

54. (Previously Presented) The device according to claim 29, wherein the liquid crystal layer is aligned vertically with respect to top surfaces of the first and second substrates.

55. (Previously Presented) The device according to claim 29, further comprising a negative uniaxial on at least one substrate.

56. (Previously Presented) The device according to claim 29, further comprising a negative biaxial film on at least one substrate.

57. (Previously Presented) The device according to claim 1, wherein the alignment direction is based only on one or more physical properties of the alignment layer.

58. (Previously Presented) The device according to claim 1, wherein the underlying layer comprises a gate insulator.